Customer No.: 31561
Application No.: 10/604,818
Docket No.: 11260-US-PA

REMARKS

Claim Rejections 35 U.S.C. 103

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Koyama* (US 2003/0030382) in view of *Kane* (US 6,229,508).

Responsive to the rejections thereto, Applicant hereby otherwise traverses these rejections. As such, Applicant submits that the claimed method is neither taught, suggested, nor disclosed by *Koyama*, *Kane*, or any of the other cited references, taken alone, or in combination, and thus should be allowed.

It is noted that the Examiner has admitted that *Koyama* does not disclose "in an initial stage of turning on of the charging path used by the current source to charge the capacitor of the AMOLED pixel, providing a pre-charging signal to the current source to have the capacitor discharged" (Page 3 of the current Office Action), as recited in claim 1. The Examiner further cited *Kane* as a second reference, in order to modify *Koyama* to render the claimed method *prima facie* obvious. However, Applicant submits that *Kane* does not remedy the deficiency of *Koyama* to render the claimed method obvious, in view of at least the following reasons.

Koyama and *Kane* are to reduce unevenness of display in an OLED display, and both do not recognize the problem that is specifically described in the present application, i.e., "[W]hen this current-driven AMOLED pixel is used to display contiguous frames having a great variance in its display gray level, the incorrect picture display problem due

to an insufficient discharge of the gate voltage memorized on the capacitor 240 may occur" (Paragraph [0007]).

Like *Koyama*, *Kane* also fails to teach "in an initial stage of the turning on of the charging path used by the current source to charge the capacitor of the AMOLED pixel, providing a pre-charging signal to the current source to have the capacitor discharged," as recited in claim 1. To address this specific limitation, the Examiner reasoned that "[A]fter the pre-charge phase has occurred, a charge of Q_{pc} is stored at node C, on the capacitances of the transistors N3, N4, and N5 (Figure 7), and during the pre-charge phase, the charge previously stored at node C would be discharged by the pre-charge signal (Autozero line) and charged to Q_{pc}, which is a predetermined potential value (Page 5 of the current Office Action, Response to Arguments Section)." However, Applicant respectfully disagrees.

Specifically, even though *Kane* might have been interpreted as having taught a pre-charge phase, the instant result of the pre-charge phase is to pre-charge node A of the pixel up to Vdd, e.g., +10 volts (column 4, lines 30-33), rather than "to have the capacitor discharged." The pre-charge phase in *Kane* has nothing to do with discharging.

At section 3 of the Office Action, the Examiner states that "the pre-charge pulse causes a charge to be stored at Node A, then Data is written to the pixel of the previous row, which would then cause the capacitor to discharge." It is submitted that the Examiner misunderstood the teaching of *Kane* in this regard. *Kane* describes that "during the auto-zero phase, the LED's turn-on voltage, as well as N2's threshold voltage, are 'measured' and stored at node B using a trickle current. This auto-zero phase is essentially

a current-drive mode of operation, where the drive current is very small. It is only after the auto-zero phase, in the writing phase, that the voltage on the LED is incremented above turn-on using the applied data voltage." (col. 4, lines 62 to col. 5, line 1, emphasis added) As such, *Kane* does not teach or suggest causing the capacitor to discharge at all, as opposed to the Examiner's conclusion.

Furthermore, Applicant submits that when the precharge phase is initiated in *Kane*, "[a] positive pulse on the auto-zero (AZ) line of the previous row 382 turns 'on' transistor 330 and precharges node A of the pixel up to Vdd, e.g., +10 volts." (col. 4, ll. 31-34). It is also noted that "the autozeroing arises from the fact that each precharge cycle, as shown in FIG. 3, *injects* a large positive charge Q_{PC} onto Node A of the pixel 300." (col. 6, ll. 56-58) (emphasis added). Thus, the precharge phase in *Kane* is to precharge the capacitor, rather than to discharge the capacitor.

Therefore, *Koyama* and *Kane* both fail to teach or suggest "providing a pre-charging signal to the current source to have the capacitor discharged," as recited in claims 1 and 2. Claims 1 and 2 are patentable over *Koyama*, *Kane*, or any of the other cited references, taken alone or in combination, and thus should be allowed.

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1 and 2 are in proper condition for allowance and an action to such effect is earnestly solicited. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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